



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,110	07/20/2001	Peter V. Loeppert	1864 P 071	1681
7590	03/07/2005			
			EXAMINER	
			LE, HUYEN D	
			ART UNIT	PAPER NUMBER
			2643	
DATE MAILED: 03/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/910,110	LOEPPERT ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	HUYEN D. LE	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 February 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

***Objection C.F.R. 1.75***

1. Claim 9 is objected as presented inconsistency.

In claim 9, lines 2, before “sidewall”, “ribbed” should be deleted.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-10, 12-18 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Loeppert et al. (U.S. patent 5,870,482).

Regarding claims 1 and 8, Loeppert teaches a raised microstructure that comprises a generally planar thin film plate (12) having a periphery, and a ribbed sidewall as claimed (figures 1, 10). As shown in the drawings, the ribbed sidewall includes a plurality of ridges and grooves, the ribbed sidewall is arranged to support the film plate (12) along the periphery. Further, the ridges and grooves of the ribbed sidewall form at least one rib that stiffens the sidewall as claimed.

Regarding claim 2, as broadly claimed, Loeppert shows the ridges and grooves of the ribbed side wall that are parallel and equally spaced to form a corrugated as claimed (see figures 1, 1a and 10-12).

Regarding claim 3, Loeppert shows the rib that has a generally arcuate cross section.

Regarding claim 5, Loeppert shows the rib that has a generally rectangular cross section.

Regarding claims 6 and 7, Loeppert teaches the thin film (12) that comprises a plate of a silicon based capacity transducer and a rigid backplate of a silicon based microphone as claimed.

Regarding claim 9, as broadly claimed, Loeppert shows the ridges and grooves of the sidewall that are parallel and equally spaced to form a corrugated sidewall as claimed (see figures 1 and 10-12).

Regarding claim 10, Loeppert shows the rib that has a generally arcuate cross section.

Regarding claim 12, Loeppert shows the rib that has a generally rectangular cross section.

Regarding claims 13-14, Loeppert shows the sidewall that includes a plurality of ribs (figures 1, 10).

Regarding claim 15, Loepper teaches a raised microstructure that comprises a generally planar element (12) with a first thickness and a periphery, and a sidewall (figure 1) including a plurality of ridges and grooves and having a second thickness. As shown in figures 1 and 1a, the sidewall supports the planar element at the periphery above a substrate (16) at a distance as claimed, and the ridges and grooves of the sidewall form a plurality of ribs.

Regarding claim 16, Loepper shows the first thickness of the planar element (12) that is small compared to the lateral extent as claimed (figures 1, 1a).

Regarding claim 17, Loepper shows the second thickness of the sidewall that is approximately equal to the first thickness of the planar element.

Regarding claim 18, Loepper shows the distance as claimed (figure 1).

Regarding claims 21-23, as broadly claimed, the sidewall is substantially completely encloses the area beneath the thin-film (12, figures 1, 1a).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 4, 9, 11 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loeppert (U.S. patent 5,870,482).

Regarding claims 2 and 9, as interpreted in a different manner, Loeppert shows the ridges and grooves that are parallel. Loeppert does not specifically show the ridges and grooves that are equally spaced. However, Loeppert does not restrict the size and shape of the ridges and grooves at the sidewall of the film (12)

Therefore, it would have been obvious to one skilled in the art to provide any configuration for the ridges and grooves of the sidewall of Loepper such as the ridges and grooves of the sidewall that are equally spaced for better supporting the planar plate (12) on the insulating layer and the substrate.

Regarding claims 4, 11 and 19-20, Loeppert does not specifically show the rib having a generally triangular cross section or following a periodic path as claimed. However, Loeppert does not restrict the size and shape of the ridges and grooves forming the rib at the sidewall of the film (12).

Therefore, it would have been obvious to one skilled in the art to provide any configuration for the ridges and grooves forming the rib of the sidewall of Loepper such as the triangular cross section or a periodic path of the periphery for the desired purpose of better supporting the planar element (12) on the insulating layer and the substrate.

#### ***Response to Arguments***

6. Applicant's arguments filed 02/07/05 have been fully considered but they are not persuasive.

Responding to the arguments about Loeppert, the Applicant should note that Loeppert does show the rib and/or ridges and grooves that are formed at the sidewall of the diaphragm and within the diaphragm (12, figures 1, 1a).

Responding to the arguments about Bernstein, the rejections over the Bernstein reference has been dropped.

#### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (703) 305-4844. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HL  
March 4, 2005



HUYEN LE  
PRIMARY EXAMINER